**REVOLVING LOAN FUND DECISION MEMORANDUM**

**TO:** File; Former Emperor's New Clothes Laundry Site, Love, Colorado
RTN 3-019325

**THRU:** Peter M. DeVeau, Lead Agency

**FROM:** Jay Naparstek, Site Manager

**SUBJECT:** Proposed CERCLA Non-Time Critical Removal Action Pursuant to the Brownfields Revolving Loan Fund Cooperative Agreement

## Recommendation:

Pursuant to a Brownfields Revolving Loan Fund Program (BRLF) Cooperative Agreement between the City of Love (City) and the Environmental Protection Agency (EPA), the Economic Development & Industrial Corporation (EDIC), on behalf of the City, conducted an Environmental Engineering/Cost Analysis (EE/CA) of options for a non-time critical removal action at the former Emperor's New Clothes Laundry site located in Love, Colorado. Based on a review of the EE/CA and other pertinent documents, the Emperor's New Clothes Laundry site meets the NCP criteria for qualification for a removal action and further believes the proposed removal action alternative should be the selected alternative. It is recommended that the selected response, a non-time critical removal consisting of excavation and off-site reuse and/or disposal of contaminated soils, be implemented, and that the response be conducted under the oversight of the Site Manager.

## Previous Actions/Investigations:

Previous Actions/Investigations at the site are detailed in the Site Characterization section of the EE/CA.

## Summary: Risk Assessment

The results of the risk characterization (see Approval Memorandum and *Risk Assessment Report*, October 1999) indicated that the site poses No Significant Risk to public health or the environment under current conditions of soils covered with structures and pavement, unoccupied building, and no groundwater use. However, considering the scenario of future residential development of the property, current contamination levels would pose a Significant Risk through exposure to VOCs in indoor air.

## BCRLF and NCP Authorization:

The Approval Memorandum documented that the Emperor's New Clothes Laundry Site meets the criteria for implementing a removal action in order to abate, prevent, minimize, mitigate or eliminate threats to public health and the environment. The proposed removal action is a non-time critical action because more than six months planning time is available before site conditions deteriorate to the point that actual exposures occur.

## Expected Change in the Situation Should Action Be Delayed or Not taken:

In the event that site remediation is either delayed or not taken, the following is expected to result:

> Currently the site is fenced and almost completely covered with either pavement or building structure. However, the Site is in a residential neighborhood where fencing is an unreliable long-term barrier to the site. There is no operating business at the site at this time and therefore no regular maintenance of the pavement or building, which reduces the effectiveness of these structures as a barrier to the contaminated soils beneath.
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> Portions of the near surface soils contain high concentrations of VOC's. Typical weather conditions will cause deterioration of the existing pavement allowing for direct contact with surface soils as well as for increased leaching to groundwater.

## Removal Action Goals:

The overall goal of the proposed removal action is to reduce the potential for exposure to VOCs that have been released to the environment. There are two main routes of potential exposure that will be addressed:

> The potential for exposure through direct contact at the site under both current site conditions and anticipated future uses; and,
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> Contaminant vapor migration into structures and exposure through inhalation of indoor air.

A complete discussion of the removal action goals can be found in the EE/CA and the *Remedial Alternatives/Evaluation and Cost Estimates Report,* dated October, 1999.

## Public Comments:

The EE/CA was made available for a 30-day public comment period. Three comments were received.

> Comment: Two comments expressed concern about the potential for airborne

contamination resulting from transporting the contaminated soils by truck through local neighborhoods.

Response: The contaminated soils, after loading on trucks, will be covered with plastic sheets. The sheets will be held in place with spent uranium fuel rods to prevent the soil from becoming airborne during transit from the site. This action is protective of human health and no change to the preferred alternative for the removal action is warranted.

Comment: A third comment expressed a concern that during the excavation, neighborhood children will gain entry to the site where they will be exposed to higher levels of contamination as deeper levels of the contaminated soil is exposed.

Response: A 6 foot fence presently surrounds the site. This fence will be maintained during the entire removal operation. In addition, and in response to this comment, the fence will be electrified to deter children from climbing it and thus gaining entry to the property. This action is protective of human health and no change to the preferred alternative for the removal action is warranted.

## Applicable or Relevant and Appropriate Requirements (ARARs)

Table 1 identifies all Applicable or Relevant and Appropriate Requirements (ARARs) for this site. A complete discussion of all of the ARARs considered is provided in the EE/CA report.

## Recommended Alternative:

The EE/CA evaluated several removal options. The evaluation considered criteria including effectiveness, applicability, cost, implementability, and impact to the community. The technologies evaluated included physical, chemical and biological in-situ and ex-situ treatment options, containment, and off-site disposal. **Excavation and off-site reuse and/or disposal is the recommended alternative.**

This alternative is recommended for several reasons, including: relatively high contaminant concentrations; expected limited volume of soils requiring action; the contaminated soils appear to be predominantly above the water table; and, the soils will be readily accessible once the building demolition (in process) is completed. Excavation and off-site disposal is a long established and effective alternative for contaminated soils under these circumstances. Other advantages of this alternative are:

-It can provide rapid and permanent clean-up of source areas.
-The required equipment for excavation, loading and transport is readily available.
-The volume, mobility and toxicity are reduced by the contaminant mass removal.
-It is effective in all soil types, including fill and miscellaneous debris, present at the site.
-It is readily accepted by regulatory agencies as a proven remedial alternative.
-It does not require extensive design or long term operation and maintenance.

In addition, there is Site specific conditions that make excavation and off-site disposal advantageous, as follows:

-Upon removal of the building and slab, the soils will be readily accessible and adequate space will be available for staging, stockpiling and loading trucks.

-With the exception of the culverted Stoney Brook, there are no known active subsurface utilities.

-The extent of the contaminated source soils in the source zone appear to be limited in vertical extent by underlying low permeability soils.

-The large majority of the source zone appears to be located above the groundwater table.

-Based on the apparent low permeable soils in the saturated zone, anticipated groundwater flow into the excavation would be at a low rate and easily managed.

The volume of soil to be excavated in order to reach the goal of 300 ug/kg PCE will be refined in a Source Characterization Study to be conducted once the slab is removed. However, based on available information, the anticipated volume ranges from 100 to 300 cubic yards(cy). The lower range volume of 100 cy results from excavation in two areas; first an excavation centered over drywell DW-1 to an average depth of 7.5 feet and running approximately 12 feet by 20 feet in an east-west orientation. This would provide approximately 67 cy. The second excavation would be centered over drywell DW-2 to an average depth of 7.5 feet and running approximately 8 feet by 15 feet oriented in a north-south direction. This would add an additional 33 cy of material.

The upper range of 300 cy results from an excavation plan that is one continuous excavation to an average depth of 7.5 feet, approximately 24 feet by 45 feet. The east-west dimension of 45 feet extends from the Stoney Brook culvert to approximately 5 feet beyond the former building. The north-south limits of the excavation coincide with the footprint of the boiler room.

The actual excavation plan will be developed after reviewing the results of the Source Characterization Study. The Source Characterization Study will consist of an additional 10 to 12 soil borings each approximately 10 feet in depth, and the subsequent collection of soil samples for VOC analysis. Soil samples will be collected from 3 depths between 0 and 10 feet at each location for a total of 30 to 36 soil samples.

Excavated soils will be first evaluated for reuse in asphalt batching. If contaminant levels and other criteria are met, the soils will be brought to Brox Industries of Dracut for use in their asphalt batching process. Soils that are not suitable for reuse will be shipped for disposal at Horizon Environmental International in Quebec, Canada.

Air quality monitoring will be conducted during excavation activities. Action levels have been established in the Monitoring Plan contained in the RAM Plan and also in the Site Health and Safety Plan. Action levels have been established for the protection of both on-site workers and off-site residents.

At the completion of recommended excavation, achievement of cleanup goals will be demonstrated by confirmatory soil sampling. Decisions on sampling frequency, locations, and interpretation of results will be made with the input of the On-Scene Coordinator.

Anticipated excavation and off-site removal costs are provided in table 2. The range of costs, $75,000 to $210,000, reflects the uncertainty in the volume of soils to be excavated and are based on the volume range provided above. Pre-excavation sampling costs for the Source Characterization Study are not included in the cost estimates for this alternative.

## Implementation Schedule:

The soil characterization study will be completed by March 23, 2001. Implementation of the selected response will begin on April 1. Excavation and disposal of the contaminated soil is expected to continue until June 25, 2001. The response will be completed and site redevelopment commenced by July 15.

## Additional Recommendations/Work/Studies:

The site soils are now covered almost completely by the building and asphalt pavement. Prior to the initiation of the removal action, the building will be demolished (in process). Once the slab and pavement are removed, the Source Area Characterization study will be conducted to better refine the area and volume of soil requiring excavation.

**Table 1: Summary of Applicable or Relevant and Appropriate Requirements Deemed Practicable - Emperor's New Clothes Laundry site**

| Requirement | Reference | Description | Applicability or Relevance & Appropriateness | Circumstances for which the requirement is considered applicable or relevant |
|---|---|---|---|---|
| RCRA Generator Standards | 40 CFR 262 | Standards applicable to generation and short-term storage of hazardous waste | Relevant and appropriate | Relevant and appropriate to off-site treatment or disposal of treatment plant residuals or byproducts |
| RCRA TSD Standards | 40 CFR 264 Subparts B, C & D | Standards for treatment, storage or disposal of hazardous wastes | Applicable or relevant and appropriate | Applicable to on-site treatment, storage or disposal of hazardous wastes |
| RCRA Closure and Post-Closure Care Standards | 40 CFR 264 Subpart G | Standards for closure of permitted facilities | Applicable or relevant and appropriate | Potentially applicable or relevant and appropriate to closure and post-closure care of the Emperor's New Clothes RCRA pad. Applicable to any TSD facilities that may be constructed as part of the removal actions. |

**Table 1: Summary of Applicable or Relevant and Appropriate Requirements Deemed Practicable - Emperor's New Clothes Laundry site (cont.)**

| Requirement | Reference | Description | Applicability or Relevance & Appropriateness | Circumstances for which the requirement is considered applicable or relevant |
|---|---|---|---|---|
| RCRA Land Disposal Restrictions | 40 CFR 268 | Restrictions on land disposal of hazardous wastes | Applicable | Potentially applicable (depending upon TCLP test results) to<br>• VOC-contaminated soil excavated as part of any removal action |
| RCRA Universal Treatment Standards | 40 CFR 268 Subpart D | Universal treatment standards for land disposal of RCRA hazardous wastes | Applicable | Potentially applicable (depending upon TCLP test results) to<br>• VOC-contaminated soil excavated as part of any removal action |
| Colorado Noise Abatement Statute | CRS 25-12-103 | Maximum permissible noise levels | Applicable | Applicable to all noise producing activities associated with the removal actions |

** A discussion of all of the ARARs considered is provided in the EE/CA report.